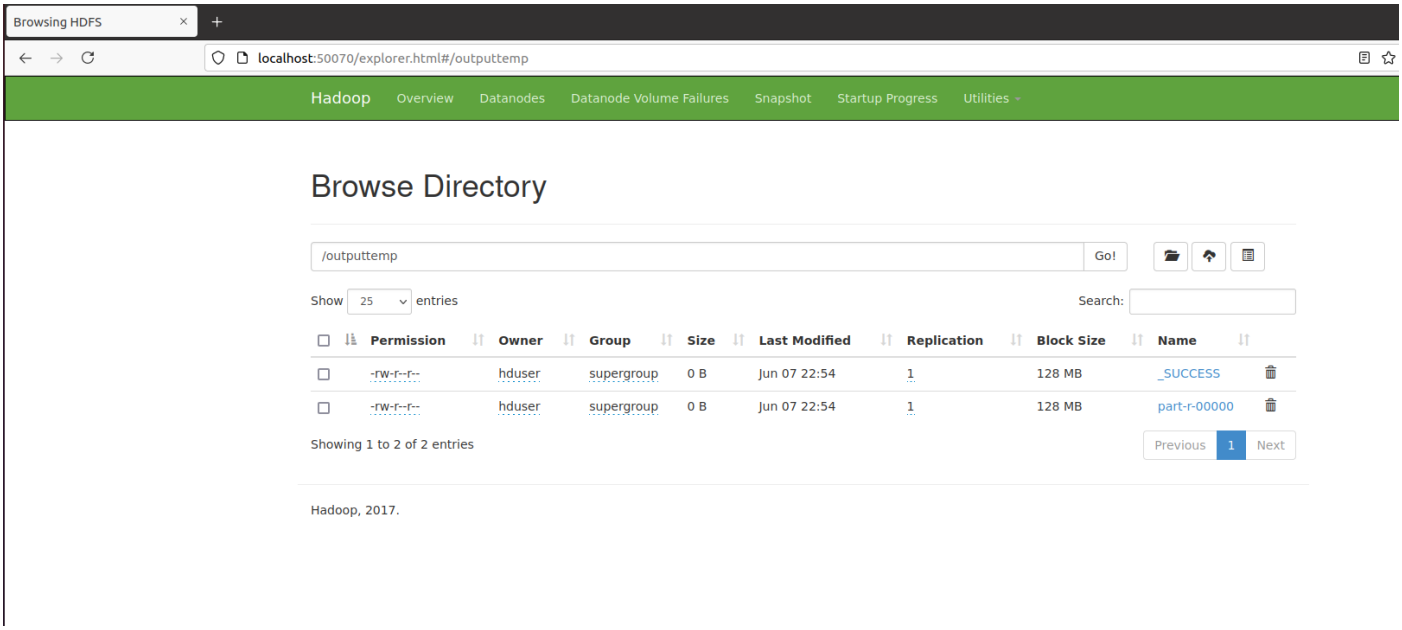
//dsbda 13
//MaxTemperatureDriver.java

```
package MaxMinTemp;

import org.apache.hadoop.conf.Configured;
import org.apache.hadoop.fs.Path;
import org.apache.hadoop.io.IntWritable;
import org.apache.hadoop.io.Text;
import org.apache.hadoop.mapreduce.Job;
import org.apache.hadoop.mapreduce.lib.input.FileInputFormat;
import org.apache.hadoop.mapreduce.lib.output.FileOutputFormat;
import org.apache.hadoop.util.Tool;
import org.apache.hadoop.util.ToolRunner;

/*This class is responsible for running map reduce job*/
public class MaxTemperatureDriver extends Configured implements Tool {
    public int run(String[] args) throws Exception {
        if (args.length != 2) {
            System.err.println("Usage: MaxTemperatureDriver <input path> <outputpath>");
            System.exit(-1);
        }
        Job job = new Job();
        job.setJarByClass(MaxTemperatureDriver.class);
        job.setJobName("Max Temperature");
        FileInputFormat.addInputPath(job, new Path(args[0]));
        FileOutputFormat.setOutputPath(job, new Path(args[1]));
        job.setMapperClass(MaxTemperatureMapper.class);
        job.setReducerClass(MaxTemperatureReducer.class);
        job.setOutputKeyClass(Text.class);
        job.setOutputValueClass(IntWritable.class);
        System.exit(job.waitForCompletion(true) ? 0 : 1);
        boolean success = job.waitForCompletion(true);
        return success ? 0 : 1;
    }

    public static void main(String[] args) throws Exception {
        MaxTemperatureDriver driver = new MaxTemperatureDriver();
        int exitCode = ToolRunner.run(driver, args);
        System.exit(exitCode);
    }
}
```

```
//MaxTemperatureReducer.java
package MaxMinTemp;

import java.io.IOException;
import org.apache.hadoop.io.IntWritable;
import org.apache.hadoop.io.Text;
import org.apache.hadoop.mapreduce.Reducer;

public class MaxTemperatureReducer
        extends Reducer<Text, IntWritable, Text, IntWritable> {
    @Override
    public void reduce(Text key, Iterable<IntWritable> values,
            Context context)
            throws IOException, InterruptedException {
        int maxValue = Integer.MIN_VALUE;
        for (IntWritable value : values) {
            maxValue = Math.max(maxValue, value.get());
        }
        context.write(key, new IntWritable(maxValue));
    }
}

//MaxTemperatureMapper.java
package MaxMinTemp;

import java.io.IOException;
import org.apache.hadoop.io.IntWritable;
import org.apache.hadoop.io.LongWritable;
import org.apache.hadoop.io.Text;
import org.apache.hadoop.mapreduce.Mapper;

public class MaxTemperatureMapper extends
        Mapper<LongWritable, Text, Text, IntWritable> {
    private static final int MISSING = 9999;

    @Override
    public void map(LongWritable key, Text value, Context context)
            throws IOException, InterruptedException {
        String line = value.toString();
        String year = line.substring(15, 19);
        int airTemperature;
        if (line.charAt(87) == '+') { // parseInt doesn't like leading plus
            // signs
            airTemperature = Integer.parseInt(line.substring(88, 92));
        } else {
            airTemperature = Integer.parseInt(line.substring(87, 92));
        }
        String quality = line.substring(92, 93);
        if (airTemperature != MISSING && quality.matches("[01459]")) {
            context.write(new Text(year), new IntWritable(airTemperature));
        }
    }
}
```

//output


Browsing HDFS
localhost:50070/explorer.html#/outputtemp
Hadoop
Overview
Datanodes
Datanode Volume Failures
Snapshot
Startup Progress
Utilities
Browse Directory
/outputtemp
Go!
Show 25 entries
Search:
Permission
Owner
Group
Size
Last Modified
Replication
Block Size
Name
-rw-r--r--
hduser
supergroup
0 B
Jun 07 22:54
1
128 MB
_SUCCESS
-rw-r--r--
hduser
supergroup
0 B
Jun 07 22:54
1
128 MB
part-r-00000
Showing 1 to 2 of 2 entries
Previous
1
Next
Hadoop, 2017.